

Serial Number:

08/82,980E

Processing Date:

9/13/02

Edited by:

V rified by:

(STIC staff)

☐ Changed a file from non-ASCII to ASCII

☐ Changed the margins in cases where the sequence text was "wrapped" down to the next line

☐ Edited a format error in the Current Application Data section, specifically:

☐ Edited the Current Application Data section with the actual current number. The number inputted by the applicant was ☐ the prior application data; or ☐ other

☐ Added the mandatory heading and subheadings for "Current Application Data".

☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically:

☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were:

☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

☐ Inserted colons after headings/subheadings. Headings edited included:

☐ Deleted extra, invalid, headings used by an applicant, specifically:

☐ Deleted: ☐ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as

☐ Inserted mandatory headings, specifically:

☐ Corrected an obvious error in the response, specifically:

☐ Edited identifiers where upper case is used but lower case is required, or vice versa.

☐ Corrected an error in the Number of Sequences field, specifically:

☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

☐ Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected:

☒ Other:

Re-aligned amino numbering in Segs. 107 + 109

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95

ENTERED

RECEIVED

SEP 18 2002

TECH CENTER 1600/2900



1600

RAW SEQUENCE LISTING DATE: 09/13/2002
PATENT APPLICATION: US/08/823,980E TIME: 13:11:37

Input Set : N:\Crf4\09112002\H823980E.DC.txt
Output Set: N:\CRF4\09132002\H823980E.raw

SEQUENCE LISTING

1 (1) GENERAL INFORMATION:

- 2 (i) APPLICANT: Weiner, Amy J.
- 3 Houghton, Michael
- 4 (ii) TITLE OF INVENTION: Conserved Motif of Hepatitis C Virus
- 5 E2/NS1 Region
- 6 (iii) NUMBER OF SEQUENCES: 135
- 7 (iv) CORRESPONDENCE ADDRESS:
 - 8 (A) ADDRESSEE: Chiron Corporation
 - 9 (B) STREET: 4560 Horton Street
 - 10 (C) CITY: Emeryville
 - 11 (D) STATE: CA
 - 12 (E) COUNTRY: USA
 - 13 (F) ZIP: 94608-2916
- 14 (v) COMPUTER READABLE FORM:
 - 15 (A) MEDIUM TYPE: Floppy disk
 - 16 (B) COMPUTER: IBM PC compatible
 - 17 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - 18 (D) SOFTWARE: PatentIn Release #1.0, Version #1.25
- 19 (vi) CURRENT APPLICATION DATA:
 - C--> 20 (A) APPLICATION NUMBER: US/08/823,980E
 - C--> 21 (B) FILING DATE: 25-Mar-1997
 - 22 (C) CLASSIFICATION:
- 23 (viii) ATTORNEY/AGENT INFORMATION:
 - 24 (A) NAME: Robins, Roberta L.
 - 25 (B) REGISTRATION NUMBER: 41,411
 - 26 (C) REFERENCE/DOCKET NUMBER: CHIR-0108
- 27 (ix) TELECOMMUNICATION INFORMATION:
 - 28 (A) TELEPHONE: 650-325-7812
 - 29 (B) TELEFAX: 650-325-7823

30 (2) INFORMATION FOR SEQ ID NO: 1:

- 31 (i) SEQUENCE CHARACTERISTICS:
 - 32 (A) LENGTH: 6 amino acids
 - 33 (B) TYPE: amino acid
 - 34 (C) STRANDEDNESS: single
 - 35 (D) TOPOLOGY: linear
- 36 (ii) MOLECULE TYPE: peptide
- 37 (ix) FEATURE:
 - 38 (A) NAME/KEY: Xaa
 - 39 (B) LOCATION: 1
 - 40 (D) OTHER INFORMATION: /label= variable
- 41 /note= "Represents Ala, Arg, Asp, Gly, Lys, Ser,
- 42 or Thr"

RAW SEQUENCE LISTING

DATE: 09/13/2002

PATENT APPLICATION: US/08/823,980E

TIME: 13:11:37

Input Set : N:\Crf4\09112002\H823980E.DC.txt

Output Set: N:\CRF4\09132002\H823980E.raw

```

43      (ix) FEATURE:
44          (A) NAME/KEY: Xaa
45          (B) LOCATION: 2
46          (D) OTHER INFORMATION: /label= variable
47 /note= "Represents Ile, Leu, Met, Phe or Trp"
48      (ix) FEATURE:
49          (A) NAME/KEY: Xaa
50          (B) LOCATION: 3
51          (D) OTHER INFORMATION: /label= variable
52 /note= "Represents Leu or Phe"
53      (ix) FEATURE:
54          (A) NAME/KEY: Xaa
55          (B) LOCATION: 6
56          (D) OTHER INFORMATION: /label= variable
57 /note= "Represents Ala or Gly"
58      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
W--> 59      Xaa Xaa Xaa Xaa Xaa Xaa
60          1          5
62 (2) INFORMATION FOR SEQ ID NO: 2:
63      (i) SEQUENCE CHARACTERISTICS:
64          (A) LENGTH: 32 amino acids
65          (B) TYPE: amino acid
66          (C) STRANDEDNESS: single
67          (D) TOPOLOGY: linear
68      (ii) MOLECULE TYPE: peptide
69      (ix) FEATURE:
70          (A) NAME/KEY: Xaa
71          (B) LOCATION: 1
72          (D) OTHER INFORMATION: /label= Dpr
73 /note= 2,3-diaminopropionic is acetyl cysteine
74      (ix) FEATURE:
75          (A) NAME/KEY: Xaa
76          (B) LOCATION: 2
77          (D) OTHER INFORMATION: /label= Ahe
78 /note= 2-amino heptanoic is butyl alanine
79      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
W--> 80      Xaa Xaa Glu Thr His Val Thr Gly Gly Ser Ala Gly His Thr Val Ser
81          1          5          10          15
82          Gly Phe Val Ser Leu Leu Ala Pro Gly Ala Lys Gln Asn Val Gln Leu
83          20          25          30
85 (2) INFORMATION FOR SEQ ID NO: 3:
86      (i) SEQUENCE CHARACTERISTICS:
87          (A) LENGTH: 5 amino acids
88          (B) TYPE: amino acid
89          (C) STRANDEDNESS: single
90          (D) TOPOLOGY: linear
91      (ii) MOLECULE TYPE: peptide
92      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
93          Val Ser Leu Leu Ala

```

RAW SEQUENCE LISTING

DATE: 09/13/2002

PATENT APPLICATION: US/08/823,980E

TIME: 13:11:37

Input Set : N:\Cr4\09112002\H823980E.DC.txt

Output Set: N:\CRF4\09132002\H823980E.raw

```
94          1          5
96 (2) INFORMATION FOR SEQ ID NO: 4:
97   (i) SEQUENCE CHARACTERISTICS:
98       (A) LENGTH: 7 amino acids
99       (B) TYPE: amino acid
100      (C) STRANDEDNESS: single
101      (D) TOPOLOGY: linear
102   (ii) MOLECULE TYPE: peptide
103   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
104       Ser Leu Leu Ala Pro Gly Ala
105          1          5
107 (2) INFORMATION FOR SEQ ID NO: 5:
108   (i) SEQUENCE CHARACTERISTICS:
109       (A) LENGTH: 5 amino acids
110       (B) TYPE: amino acid
111       (C) STRANDEDNESS: single
112       (D) TOPOLOGY: linear
113   (ii) MOLECULE TYPE: peptide
114   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
115       Leu Ala Pro Gly Ala
116          1          5
118 (2) INFORMATION FOR SEQ ID NO: 6:
119   (i) SEQUENCE CHARACTERISTICS:
120       (A) LENGTH: 7 amino acids
121       (B) TYPE: amino acid
122       (C) STRANDEDNESS: single
123       (D) TOPOLOGY: linear
124   (ii) MOLECULE TYPE: peptide
125   (ix) FEATURE:
126       (A) NAME/KEY: Xaa
127       (B) LOCATION: 7
128       (D) OTHER INFORMATION: /label= variable
129 /note= "Represents Ala, Pro or Ser"
130   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
W--> 131       Ser Leu Leu Xaa Xaa Gly Xaa
132          1          5
134 (2) INFORMATION FOR SEQ ID NO: 7:
135   (i) SEQUENCE CHARACTERISTICS:
136       (A) LENGTH: 7 amino acids
137       (B) TYPE: amino acid
138       (C) STRANDEDNESS: single
139       (D) TOPOLOGY: linear
140   (ii) MOLECULE TYPE: peptide
141   (ix) FEATURE:
142       (A) NAME/KEY: Xaa
143       (B) LOCATION: 7
144       (D) OTHER INFORMATION: /label= variable
145 /note= "Represents Ala, Pro or Ser"
146   (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
```

RAW SEQUENCE LISTING

DATE: 09/13/2002

PATENT APPLICATION: US/08/823,980E

TIME: 13:11:37

Input Set : N:\Cr4\09112002\H823980E.DC.txt

Output Set: N:\CRF4\09132002\H823980E.raw

W--> 147 Ser Leu Phe Xaa Xaa Gly Xaa
148 1 5
150 (2) INFORMATION FOR SEQ ID NO: 8:
151 (i) SEQUENCE CHARACTERISTICS:
152 (A) LENGTH: 31 amino acids
153 (B) TYPE: amino acid
154 (C) STRANDEDNESS: single
155 (D) TOPOLOGY: linear
156 (ii) MOLECULE TYPE: peptide
157 (ix) FEATURE:
158 (A) NAME/KEY: Xaa
159 (B) LOCATION: 1
160 (D) OTHER INFORMATION: /label= variable
161 /note= "Represents Any Amino Acid"
162 (ix) FEATURE:
163 (A) NAME/KEY: Xaa
164 (B) LOCATION: 3
165 (D) OTHER INFORMATION: /label= variable
166 /note= "Represents Any Amino Acid"
167 (ix) FEATURE:
168 (A) NAME/KEY: Xaa
169 (B) LOCATION: 8
170 (D) OTHER INFORMATION: /label= variable
171 /note= "Represents Any Amino Acid"
172 (ix) FEATURE:
173 (A) NAME/KEY: Xaa
174 (B) LOCATION: 14
175 (D) OTHER INFORMATION: /label= variable
176 /note= "Represents Any Amino Acid"
177 (ix) FEATURE:
178 (A) NAME/KEY: Xaa
179 (B) LOCATION: 16
180 (D) OTHER INFORMATION: /label= variable
181 /note= "Represents Any Amino Acid"
182 (ix) FEATURE:
183 (A) NAME/KEY: Xaa
184 (B) LOCATION: 17
185 (D) OTHER INFORMATION: /label= variable
186 /note= "Represents Any Amino Acid"
187 (ix) FEATURE:
188 (A) NAME/KEY: Xaa
189 (B) LOCATION: 21
190 (D) OTHER INFORMATION: /label= variable
191 /note= "Represents Any Amino Acid"
192 (ix) FEATURE:
193 (A) NAME/KEY: Xaa
194 (B) LOCATION: 22
195 (D) OTHER INFORMATION: /label= variable
196 /note= "Represents Any Amino Acid"

RAW SEQUENCE LISTING

DATE: 09/13/2002

PATENT APPLICATION: US/08/823,980E

TIME: 13:11:37

Input Set : N:\CrF4\09112002\H823980E.DC.txt

Output Set: N:\CRF4\09132002\H823980E.raw

```

197      (ix) FEATURE:
198          (A) NAME/KEY: Xaa
199          (B) LOCATION: 24
200          (D) OTHER INFORMATION: /label= variable
201 /note= "Represents Any Amino Acid"
202      (ix) FEATURE:
203          (A) NAME/KEY: Xaa
204          (B) LOCATION: 27
205          (D) OTHER INFORMATION: /label= variable
206 /note= "Represents Any Amino Acid"
207      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
W--> 208      Xaa Thr Xaa Val Thr Gly Gly Xaa Ala Ala Arg Thr Thr Xaa Gly Xaa
209          1             5             10             15
W--> 210      Xaa Ser Leu Phe Xaa Xaa Gly Xaa Ser Gln Xaa Ile Gln Leu Ile
211          20             25             30
213 (2) INFORMATION FOR SEQ ID NO: 9:
214      (i) SEQUENCE CHARACTERISTICS:
215          (A) LENGTH: 31 amino acids
216          (B) TYPE: amino acid
217          (C) STRANDEDNESS: single
218          (D) TOPOLOGY: linear
219      (ii) MOLECULE TYPE: peptide
220      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
221      Ala Thr Tyr Ala Thr Gly Ala Ala Gln Gly His Ala Thr Asn Ser Phe
222          1             5             10             15
223      Val Ser Leu Phe Arg Ser Gly Ala Ser Gln Asn Leu Lys Leu Val
224          20             25             30
226 (2) INFORMATION FOR SEQ ID NO: 10:
227      (i) SEQUENCE CHARACTERISTICS:
228          (A) LENGTH: 31 amino acids
229          (B) TYPE: amino acid
230          (C) STRANDEDNESS: single
231          (D) TOPOLOGY: linear
232      (ii) MOLECULE TYPE: peptide
233      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
234      Ser Thr Gln Val Thr Gly Gly Gln Ala Ala His Thr Val Arg Gly Val
235          1             5             10             15
236      Ala Ser Ile Phe Ser Pro Gly Ser Arg Gln Asp Ile Ser Leu Ile
237          20             25             30
239 (2) INFORMATION FOR SEQ ID NO: 11:
240      (i) SEQUENCE CHARACTERISTICS:
241          (A) LENGTH: 31 amino acids
242          (B) TYPE: amino acid
243          (C) STRANDEDNESS: single
244          (D) TOPOLOGY: linear
245      (ii) MOLECULE TYPE: peptide
246      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
247      Ser Thr Arg Val Thr Gly Gly Gln Gln Gly Arg Ala Val His Gly Ile
248          1             5             10             15

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/08/823,980E

DATE: 09/13/2002
TIME: 13:11:38

Input Set : N:\Crf4\09112002\H823980E.DC.txt
Output Set: N:\CRF4\09132002\H823980E.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos.1,2,3,4,5,6
Seq#:2; Xaa Pos.1,2
Seq#:6; Xaa Pos.4,5,7
Seq#:7; Xaa Pos.4,5,7
Seq#:8; Xaa Pos.1,3,8,14,16,17,21,22,24,27
Seq#:133; Xaa Pos.1
Seq#:134; Xaa Pos.4,5
Seq#:135; Xaa Pos.1,3,8,14,16,17,21,22,24,27

VERIFICATION SUMMARY

DATE: 09/13/2002

PATENT APPLICATION: US/08/823,980E

TIME: 13:11:38

Input Set : N:\Crf4\09112002\H823980E.DC.txt

Output Set: N:\CRF4\09132002\H823980E.raw

L:20 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:21 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:59 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:80 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:131 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:147 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0
L:208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:0
L:210 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8 after pos.:16
L:1838 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:133 after pos.:0
L:1851 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:134 after pos.:0
L:1919 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:135 after pos.:0
L:1921 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:135 after pos.:16